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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,245	05/18/2001	Keiichi Kitagawa	L9289.01138	3980

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EXAMINER

BEHULU, ALEMAYEHU

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 06/01/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,245

Applicant(s)

KITAGAWA ET AL.

Examiner

Alemayehu Behulu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claim 1-5 and 7-15 rejected under 35 U.S.C. 102(e) as being anticipated by Webb by (U.S. Patent No. 5,828,695).

Regarding claim 1, Webb discloses a transmitting apparatus comprising: symbol rate determining means for determining a symbol rate of a transmitting signal based on a channel variable speed between transmission and reception (column 3, lines 7-32, column 6), transmitting means for radio transmitting data based on symbol rate (column 6, lines 55-63).

Regarding claim 2, Webb discloses the transmitting apparatus according to claim 1, wherein symbol rate determining means to determine a symbol rate such that the product of transmitting time per one symbol and the channel variable speed becomes a constant value (see Webb figure 2, refer to the second column, figure 5, column 2, lines 37-41, column 4, lines 64-column 5, lines 49).

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Regarding claim 3, Webb discloses the transmitting apparatus according to claim 1, wherein symbol rate determining means determines a symbol rate whose error rate becomes minimum based on the channel variable speed and relative delay time of multipaths (see Webb figure 9, column 2, lines 32-46, column 3, lines 37-64, column 6, lines 64-column 7, lines 14).

Regarding claim 4, Webb discloses the transmitting apparatus according to claim 1, wherein symbol rate determining means determines a symbol rate whose error rate becomes minimum based on the channel variable speed and relative delay profile (figures 6, 5 and 9).

Regarding claim 5, Webb discloses the transmitting apparatus according to claim 1, further comprising carrier wave frequency controlling means for controlling a central frequency of a carrier wave based on the symbol rate (column 3, lines 26-28, column 5, lines 63-column 6 lines 4).

Regarding claim 7, Webb discloses the transmitting apparatus according to claim 1, wherein symbol rate determining means extracts information of the symbol rate from a signal transmitted from the other end of communication (figure 3, number 3, column 1, lines 26-38, lines 43-59, column 3, lines 18-28).

Regarding claims 8, 10, 12 Webb discloses a receiver apparatus comprising, receiving means for extracting received data from a signal transmitted from the transmitting apparatus described in claim 7 (figures 1, figure 3, number 3, column 2, lines 19-31, column 3, lines 7-21, column 6, lines 30-33, column 6, lines 55-63), channel variation estimating means for estimating a channel

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variation based on the received data (column 6, lines 24-54); symbol rate determining means for determining a symbol rate based on the estimated channel variation (figures 4, 5,); and transmitting means for transmitting a signal indicative of the determined symbol rate to transmitting apparatus (column 3, lines 10-30).

Regarding claims 9 and 11, Webb discloses a base station apparatus having a transmitting apparatus, said transmitting apparatus comprising: symbol rate determining means for determining a symbol rate of a transmitting signal based on a channel variable speed between transmission and reception; and transmitting means for radio transmitting data based on symbol rate (figure 3, number 11, column 3, lines 6-30).

Regarding claim 13, Webb discloses a transmitting method wherein a channel variable speed between transmission and reception is detected to increase a symbol rate of a transmitting signal in an increase in channel variable speed (column 3, lines 26-45).

Regarding claim 14, Webb discloses a transmitting method wherein a channel variable speed between transmission and reception is detected determine a symbol rate of a transmitting signal having the highest error rate characteristic from the channel variable speed and relative delay time of multipaths (figure 9, column 3, lines 57-column 4, lines 3, column 6, lines 64-column 7, lines 25).

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Regarding claim 15, Webb discloses a transmitting method wherein a channel variable speed between transmission and reception is detected determine a symbol rate of a transmitting signal having the highest error rate characteristic from the channel variable speed and a delay profile (figures 6, 4 and 9).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Webb by (U.S. Patent No. 5,828,695) in view of Gilhousen (U.S. Patent No. 5,603,096).

Regarding claim 6, Webb discloses the transmitting apparatus according to claim 1. However, Webb fails to disclose transmitting means transmits a signal only the period when received signal level is high. But, Gilhousen discloses transmitting means transmits a signal only the period when received signal level is high (column 9, lines 27-5). Therefore, at the time of invention it would have been obvious to a person of ordinary skill in the art to combine Webb by (U.S. Patent No. 5,828,695) with Gilhousen (U.S. Patent No. 5,603,096) so that the data will not be corrupted due to weak signal which is vulnerable to noise and interference.

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fette (U.S. Patent No. 5, 612,948) High Bandwidth Communication Network and Method
Chennakeshu et al. (U.S. Patent No. 5,285,480) Adaptive MLSE-VA Receiver For Digital Cellular Radio

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alemayehu Behulu whose telephone number is 703-305-4828. The examiner can normally be reached on 8 AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

Nguyen Vo
5-24-04

NGUYEN T. VO
PRIMARY EXAMINER